

# TWIN SHEET THERMOPLASTIC HEADLINER WITH INTEGRAL FEATURES FOR HEAD IMPACT COMPLIANCE

## Abstract

A headliner for a vehicle and a method of manufacturing the same is provided. The method includes providing vacuum forming equipment including upper and lower mold halves, providing thermoplastic material including a top and an independent bottom layer, and placing the top and bottom layers into the vacuum forming equipment between the upper and lower mold halves. The method further includes substantially sealing the upper and lower mold halves from atmosphere, joining the top and bottom layers together to form an integral headliner, and applying vacuum to the top and/or bottom layers at predetermined locations so as to form cavities between the top and bottom layers. The headliner made by the aforementioned method includes a plurality of surface contours on its top and/or bottom layers defining convex and concave members for absorption of impact energy during a crash.